

CLAIMS

What is claimed is:

1. An integrated circuit, comprising:
an active circuit;
a metal layer disposed, at least partially, above the active circuit; and
a bond pad disposed, at least partially, above the metal layer;
wherein the metal layer defines a frame.
2. The integrated circuit as recited in claim 1, wherein the active circuit includes an input/output (I/O) bus.
3. The integrated circuit as recited in claim 1, wherein the active circuit includes a plurality of transistors.
4. The integrated circuit as recited in claim 1, wherein the metal layer includes an interconnect metal layer.
5. The integrated circuit as recited in claim 4, wherein the interconnect metal layer interconnects the bond pad with a plurality of underlying metal layers.
6. The integrated circuit as recited in claim 5, wherein each of the underlying metal layers are in electrical communication by way of a plurality of vias.
7. The integrated circuit as recited in claim 1, wherein the frame defines an outer periphery and an inner periphery.

8. The integrated circuit as recited in claim 7, wherein the frame is enclosed.
9. The integrated circuit as recited in claim 7, wherein the metal layer defines an island formed within and spaced from the inner periphery of the frame of the metal layer.
10. The integrated circuit as recited in claim 9, wherein the island of the metal layer includes a plurality of openings formed therein.
11. The integrated circuit as recited in claim 10, wherein the openings are adapted for facilitating an interlock between the metal layer and an inter-metal dielectric layer disposed between the metal layer and the bond pad.
12. The integrated circuit as recited in claim 10, wherein the openings are completely enclosed around a periphery thereof.
13. The integrated circuit as recited in claim 10, wherein the openings have a substantially square configuration.
14. The integrated circuit as recited in claim 1, wherein a plurality of interconnect vias are formed along the frame.
15. A method for fabricating an integrated circuit, comprising:
constructing an active circuit on a semiconductor platform;
depositing a metal layer, at least partially, above the active circuit; and
forming a bond pad, at least partially, above the metal layer;
wherein the metal layer defines a frame with an outer periphery and an inner periphery.

16. An integrated circuit, comprising:

an active circuit means for processing electrical signals;

a metal layer disposed, at least partially, above the active circuit means and including a frame means for preventing damage incurred during a bonding process; and

a bond pad disposed, at least partially, above the metal layer.

17. An integrated circuit, comprising:

a semiconductor structure including an active circuit including an input/output (I/O) bus and a plurality of transistors forming a core of circuits;

a plurality of vertically spaced underlying metal layers disposed, at least partially, under the active circuit and around a periphery thereof, wherein each of the underlying metal layers are in electrical communication by way of a plurality of underlying vias with the active circuit and other underlying metal layers;

an interconnect metal layer disposed, at least partially, above the I/O bus of the active circuit and around a periphery thereof, the interconnect metal layer being in electrical communication with the underlying metal layers by way of a plurality of additional vias, wherein the interconnect metal layer defines a frame with an outer periphery and an inner periphery;

an inter-metal dielectric layer disposed, at least partially, above the interconnect metal layer, the inter-metal dielectric layer constructed from a material selected from the group consisting of a low-K dielectric material and a fluorinated silica glass (FSG) material;

a top metal layer disposed, at least partially, above the inter-metal dielectric layer, the top metal layer for serving as a bond pad, the top metal layer being in electrical communication with the interconnect metal layer by way of a plurality of interconnect vias; and

a passivation layer disposed, at least partially, above the top metal layer.

18. An integrated circuit, comprising:
 - an active circuit;
 - a metal layer disposed, at least partially, above the active circuit, the metal layer defining a substantially enclosed, rectangular frame with an outer periphery and an inner periphery;
 - a dielectric layer disposed, at least partially, above the metal layer; and
 - a bond pad disposed, at least partially, above the metal layer;

wherein a plurality of vias are formed along the frame for electrical communication between the metal layer and the bond pad.
19. A system, comprising:
 - a bus;
 - a display in communication with the bus;
 - a memory in communication with the bus; and
 - an integrated circuit in communication with the display and the memory via the bus, the integrated circuit including an active circuit; a metal layer disposed, at least partially, above the active circuit; and a bond pad disposed, at least partially, above the metal layer; wherein the metal layer defines a frame.
20. The system as recited in claim 19, wherein the system includes a general computer.
21. The system as recited in claim 19, wherein the system includes a game console.
22. The system as recited in claim 19, wherein the integrated circuit is selected from the group consisting of a central processing unit, a graphics processing unit, and one of a plurality of integrated circuits included in a chipset.
23. The system as recited in claim 19, wherein the system includes a circuit board.